TECHNICAL ISSUES COMMITTEE
RECOMMENDATION #1
14 MARCH 2006

PROBLEM STATEMENT: The existing Coalition Group MRP requires resampling at a monitoring site, as well as collecting two samples upstream, whenever a sample exceeds water quality objectives. For toxicity tests, this resampling must currently occur anytime a toxicity test result exhibits a statistically significant reduction from laboratory control. This is not a concern when there are large reductions in the organism response between the laboratory control and the ambient samples. However, laboratories with low variability among their control treatment replicates can detect very minor reductions in organism response for ambient samples, at times determining statistically "significant" reductions between samples when there is less than a 10% reduction in organism response. There is a low likelihood of a obtaining genuinely useful information (e.g., frequency of toxicity) from follow-up samples that are collected based on an original sample that exhibited minor, yet statistically significant reductions from the control. Arguably, such follow-up sampling is not worthwhile expenditure of funds based on a low likelihood of obtaining useful data.

The question remains, then, "at what level of toxicity will it be important and informative to conduct the re-sampling"? The Triggers Focus Group conducted a review of scientific materials from USEPA and technical papers, and could not find any document that established a specific % reduction from laboratory control that could be used as a guideline for triggering follow-up sampling for the Agricultural Waiver monitoring. However, the Triggers Focus Group determined that the SWRCB SWAMP program has an established a 20% reduction from the laboratory control for statistically significant samples as a trigger for justifying follow-up work on ambient samples (pers. comm., Bryn Phillips of the Granite Canyon Laboratory). Therefore, the Triggers Focus Group is making the following recommendation to the TIC:

RECOMMENDATION: When a "statistically significant" reduction is observed for a sample at the end of an acceptable test (i.e., meets EPA test acceptability criteria), but the magnitude of the reduction between the sample and the control is <20%, follow up sampling will not be required, which is consistent with the approach applied by SWAMP monitoring efforts. Samples that are "statistically significant" at the end of an acceptable test and that exhibit a ≥ 20% reduction in organism response compared to the control will require follow-up sampling.

Samples that exhibit a statistically significant reduction in organism response when compared to the laboratory control must still be reported to the RWQCB as an exceedance of the narrative water quality objective for toxicity.